

FIG. 1

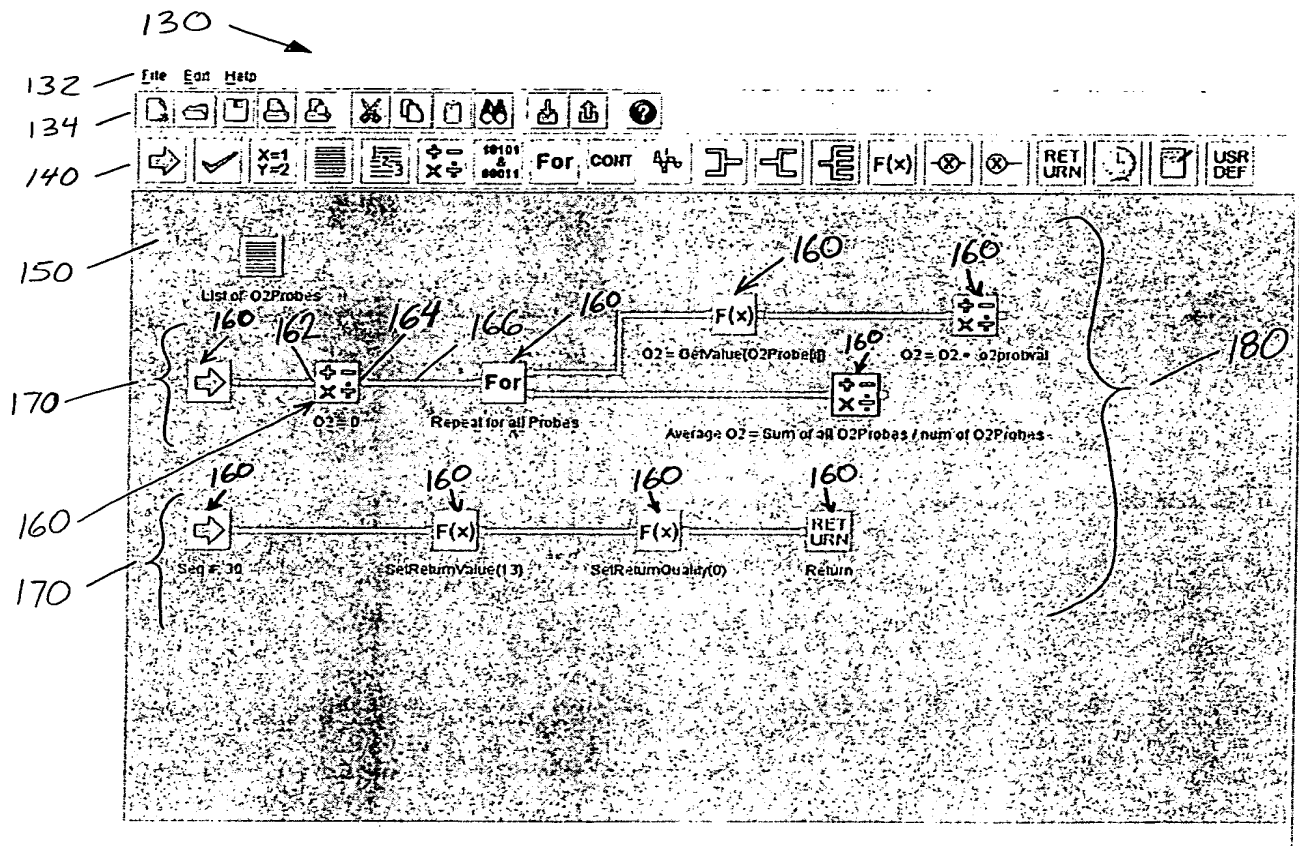


FIG. 2

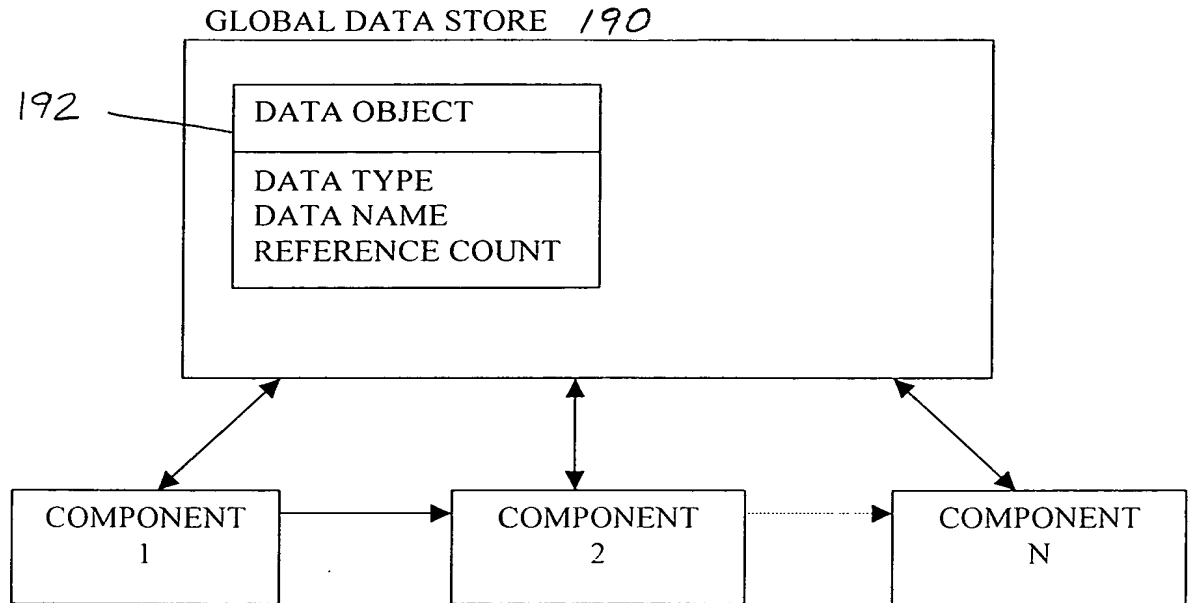


FIG. 3

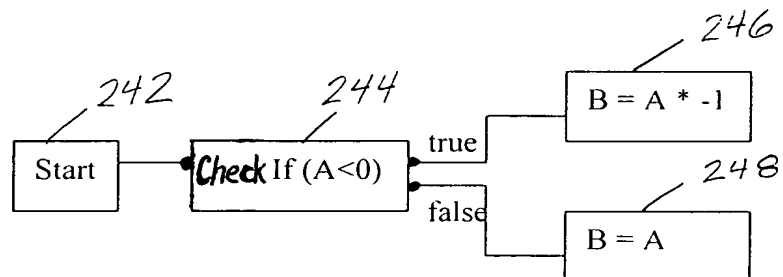


FIG. 5

**Generate Code Function**

FOR EACH Data Object in Data Store DO

    Generate Data Definition Syntax for the Data

END OF FOR

Generate Syntax for the Main Function

FOR EACH Start Component starting from Lowest Sequence # DO

    CALL Component Code Generate Function on the Component connected  
    to the Start Component

END OF FOR

Generate Closing Syntax for the Main Function

**End of Generate Code Function**

**Component Code Generate Function**

Generate Component Opening Syntax

FOR EACH Output Port on the Component

    Generate “Pre Call” Syntax

    CALL Component Code Generate Function for the Component connected  
    to the Output Port (If any)

    Generate “Post Call” Syntax

END OF FOR

Generate Component Closing Syntax

**End of Component Code Generate Function**

**FIG. 4**

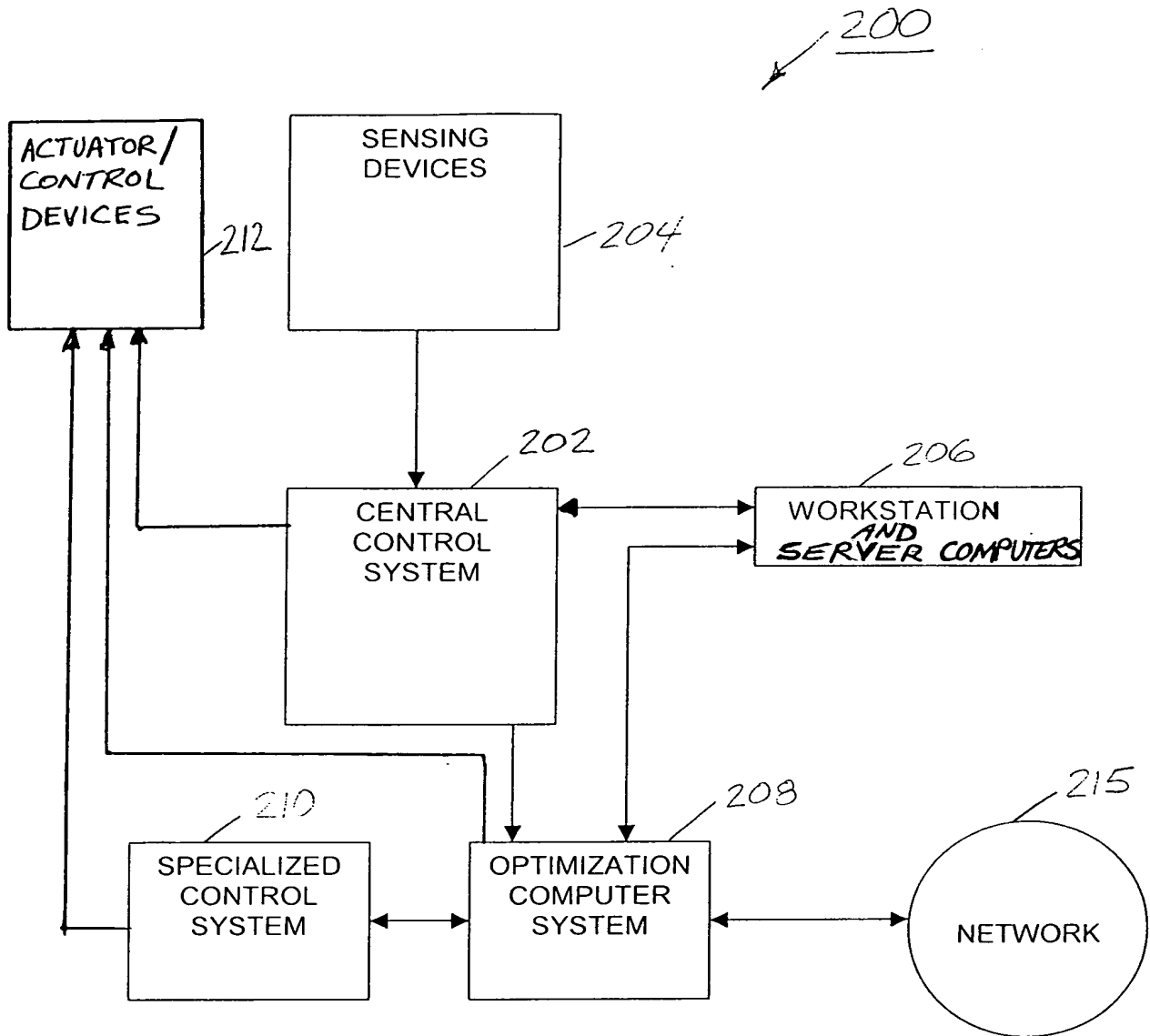


FIG. 6

A dialog box titled "Property" with a close button (X). It contains a "Name" field with the text "CALC Seq #: 10". Below this is a "Routine Type" dropdown menu set to "CALC" and a "Sequence #" text field containing "10". At the bottom are "OK" and "Cancel" buttons.

FIG. 7

A dialog box titled "Property - Check for Good Values" with a checkmark icon and a close button (X). The "Name" field contains "Check for Good Values". Below is a "Check" section with a dropdown menu showing "VALUE[CRUDE\_FEED]", an operator dropdown showing "!=", and another dropdown showing "BAD\_VALUE". Below these are three buttons: "Add Check", "Change Check", and "Remove Check". A text area contains the following logic:  
(VALUE[CRUDE\_FEED]) != (BAD\_VALUE)  
(VALUE[VISCOSITY]) != (BAD\_VALUE)  
(VALUE[SOLIDS]) != (BAD\_VALUE)  
At the bottom, there is a "Check if" section with two radio buttons: "All are true (AND)" (which is selected) and "Atleast One is true (OR)". At the very bottom are "OK" and "Cancel" buttons.

FIG. 8

A dialog box titled "Property - DEFINES" with a close button (X). It has a section with "X=1" and "Y=2" next to a "Name" field containing "DEFINES". Below this are fields for "Variable Name" (containing "MIN\_DAMPER\_POS") and "Variable Value" (containing "0"). There are "Set Variable" and "Remove Variable" buttons. A text area contains the following definitions:  
BAD\_VALUE = -777.0  
MAX\_DAMPER\_POS = 100.0  
MIN\_DAMPER\_POS = 0.0  
At the bottom are "OK" and "Cancel" buttons.

FIG. 9

Property - VALUE[000]

Name VALUE[TPL] = vis\_pls + sol\_pls + cf\_pls

Arithmetic Expression

VALUE[TPL] = vis\_pls + sol\_pls + cf\_pls Variables

OK Cancel

FIG. 10

Property - MILLMAXS

Name MILLMAXS

Array Name MILLMAXS

Array Size 5

Array Values 80.0 70.0 90.0  
90.0 100.0

OK Cancel

FIG. 11

Property - TEST = 11 AND 11

Name TEST = 11 AND 11

Bit Operation MILLSTATUS AND 8

Result Name MILLSTAT

OK Cancel

FIG. 12

A screenshot of a dialog box titled "Property - Repeat for all Mills". The dialog has a title bar with a standard Windows icon and a close button. The main content area contains a "Name" field with the text "Repeat for all Mills". Below this is a "Repeat count" section with two radio buttons: "Count" (unselected) and "Size of Array" (selected). To the right of the "Size of Array" radio button is a text field containing "MILLAMPS" and a small downward arrow. At the bottom of the dialog are "OK" and "Cancel" buttons.

FIG. 13

A screenshot of a dialog box titled "Property - Clip VALUE[TPL]". The dialog has a title bar with a standard Windows icon and a close button. The main content area contains a "Name" field with the text "Clip VALUE[TPL]". Below this is a table with three rows: "Parameter Name" with the value "VALUE[TPL]", "Lower Threshold" with the value "0", and "Upper Threshold" with the value "100". Each value is in a text field with a small downward arrow to its right. At the bottom of the dialog are "OK" and "Cancel" buttons.

FIG. 14

A screenshot of a dialog box titled "Property - Call StatsCalc". The dialog has a title bar with a standard Windows icon and a close button. The main content area contains a "Name" field with the text "Call StatsCalc". Below this is a "Sub Name" section with a text field containing "StatsCalc" and a small downward arrow. At the bottom of the dialog are "OK" and "Cancel" buttons.

FIG. 15



A dialog box titled "Property - StatsCalc" with a close button (X) in the top right corner. It contains a "Name" field with the text "StatsCalc" and a "Sub Name" field also containing "StatsCalc". At the bottom are "OK" and "Cancel" buttons.

FIG. 16

A dialog box titled "Property - Get Current Hour" with a close button (X) in the top right corner. It features a clock icon next to the "Name" field, which contains "Get Current Hour". Below the name field are two rows: "Time Format" with a dropdown menu showing "Hour(0-23)", and "Result name" with a text field containing "CurrentHour". "OK" and "Cancel" buttons are at the bottom.

FIG. 17

A dialog box titled "Property - Debug" with a close button (X) in the top right corner. It has a "USR DEF" label on the left. The "Name" field contains "Debug". Below it is a "Custom Line(C Syntax)" field containing the code `printf("DEBUG: VALUE(TPL) = %fn",VALUE(TPL));`. "OK" and "Cancel" buttons are at the bottom.

FIG. 18

A dialog box titled "Property - Alert Pegasus" with a close button (X) in the top right corner. It includes a notepad icon next to the "Name" field, which contains "Alert Pegasus". Below the name field is an "E-Mail" dropdown menu with the address "support@pegasustec.com". A "Log Message" field contains the text "Hight NOx value. NOx = %CURRENT\_NOX". "OK" and "Cancel" buttons are at the bottom.

FIG. 19

Property - vis\_pls

F(x) Name vis\_pls = PLS(viscosity)

Function APPLIS

Application Name chem

Result Name appnamecheck

OK Cancel

FIG. 20

Property - attenuatedname = ATTENUATE

F(x) Name ATTENUATE Viscosity

Function ATTENUAT

Value VALUE[VISCOSITY]

Shift 1000

Result vis\_attenuated

OK Cancel

FIG. 21

Property - boundname = BOUND

F(x) Name BOUND(VALUE(TPL))

Function BOUND

Value VALUE[TPL]

Low Limit 0

High Limit 100

OK Cancel

FIG. 22

Property - O2 = GetVal (x)

F(x) Name O2 = GetValue(O2Probe1)

Function	GetValue
Parameter	O2_Probe1
Result	o2probval

OK Cancel

FIG. 23

Property - O2Qual = GetQual (x)

F(x) Name O2Qual = GetQuality(O2\_Probe1)

Function	GetQuality
Parameter	O2_Probe1
Result	O2Qual

OK Cancel

FIG. 24

Property - AvgO2 = SetRetVal (x)

F(x) Name SetReturnValue(AvgO2)

Function	SetReturnValue
Return Value	AvgO2

OK Cancel

FIG. 25

Property - GOOD = SetRetQual (x)

F(x) Name SetReturnQuality(GOOD)

Function	SetReturnQuality
Return Quality	GOOD

OK Cancel

FIG. 26

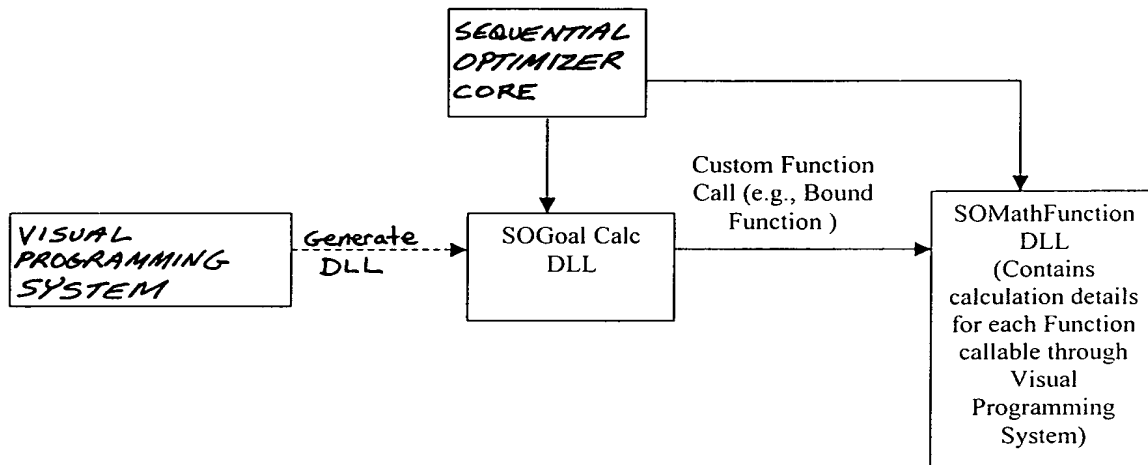


FIG. 27